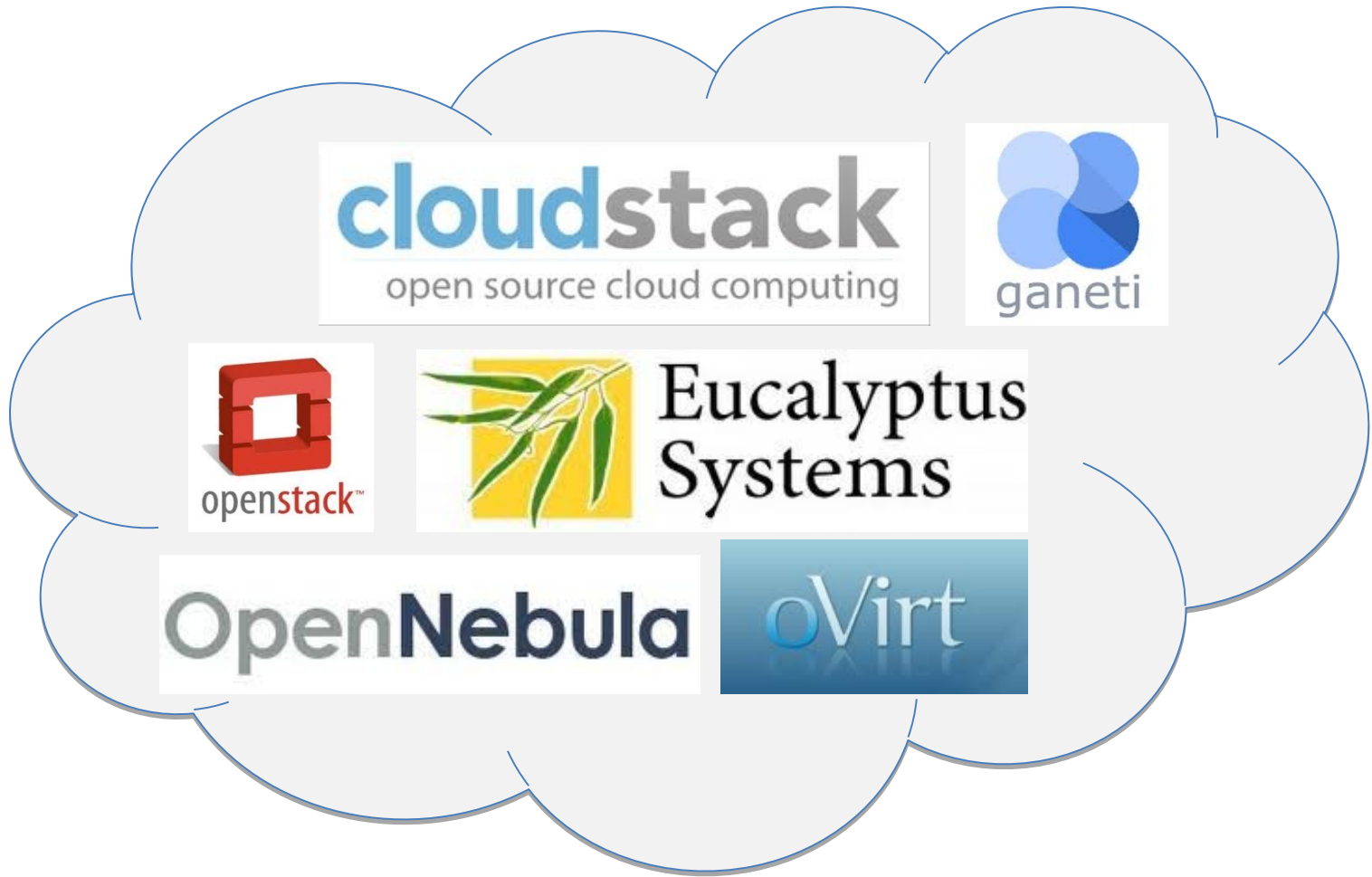


DevCloud and CloudMonkey in Apache CloudStack

Sebastien Goasguen

 @sebgoa

IaaS...



IaaS challenges

- Not out of the box by itself
- Need a farm of hypervisors
 - Xen, KVM, VMware...
- Need storage
 - For image catalogue
 - For volume/snapshot management
- Need flexible network that can be configured on-demand
 - VLANs, no VLANs, existing net infra, SDN...

IaaS is really:

- **A Data Center Orchestrator**
 - Data storage
 - Data movement
 - Data processing
- **That can:**
 - Handle failures
 - Support large scale
 - Be programmed

DevOps

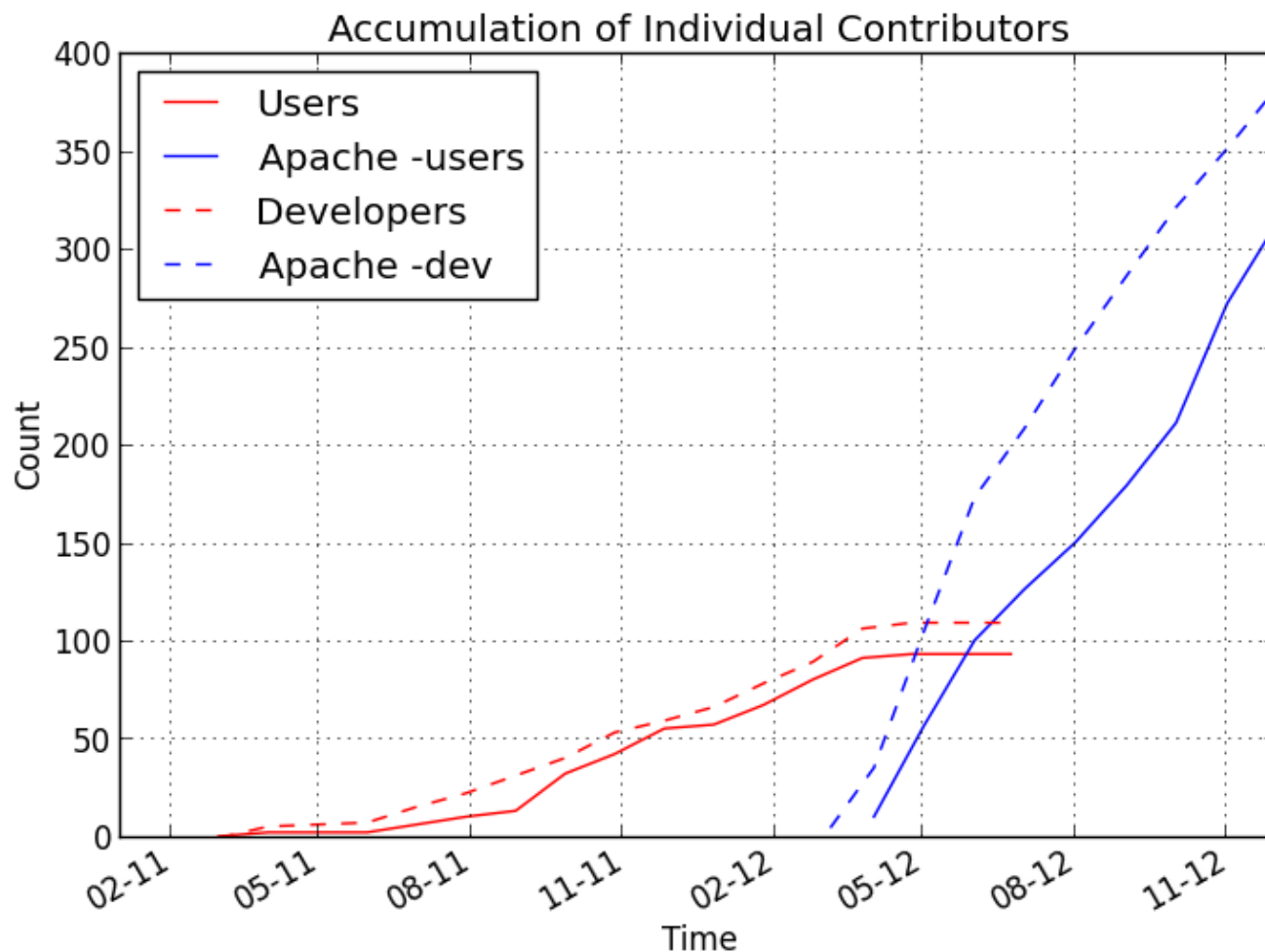
- Bring your developers closer to the operations
- Make your sys admins develop the apps

Move to Software Defined Data Center, Automate everything.



What the ASF did to

cloudstack



- **“A little bit about the internals”**



A Very Flexible IaaS Platform

Compute

Hypervisor

XenServer

VMware

Oracle VM

KVM

Bare metal

Storage

Block & Object

Local Disk

iSCSI

Fiber
Channel

NFS

Swift



Network & Network Services

Network
Type

Isolation

Firewall

Load
balancer

VPN

Architecture / Language

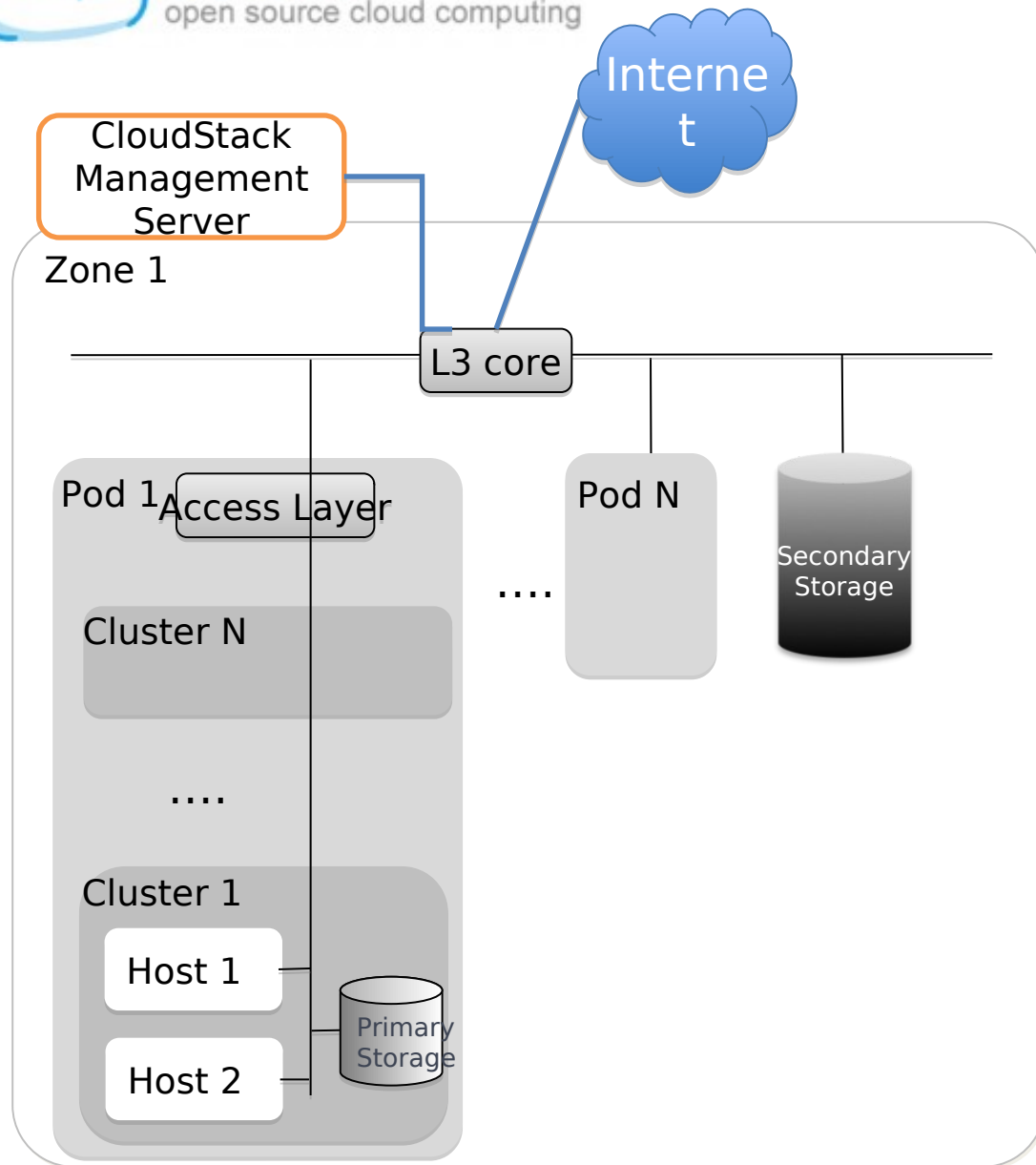
- Java application
- Tomcat6, Axis2, Maven build + ant
 - Ant going away in 4.1
- Moving towards a plugin architecture



Releases

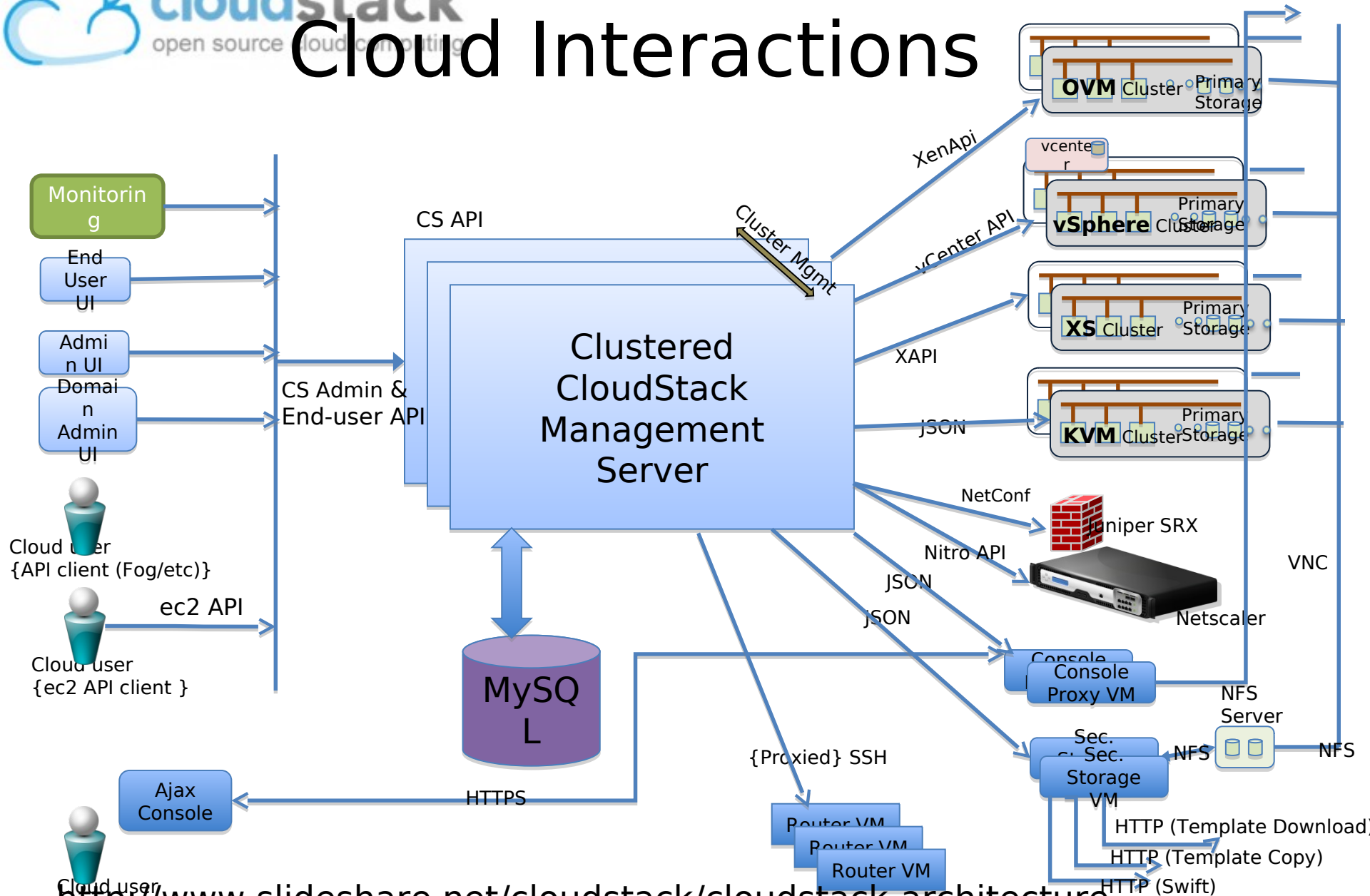
- **Apache CloudStack 4.0 released in November**
- Time based releases
 - Rather slip features but guarantee release
- **Apache CloudStack 4.1 planned for March 22nd. 4.2 most likely in July**

CloudStack Cloud Architecture



- Hypervisor is the basic unit of scale.
- Cluster consists of one or more hosts of same hypervisor
- All hosts in cluster have access to shared (primary) storage
- Pod is one or more clusters, usually with L2 switches.
- Availability Zone has one or more pods, has access to secondary storage.
- One or more zones represent cloud

Cloud Interactions

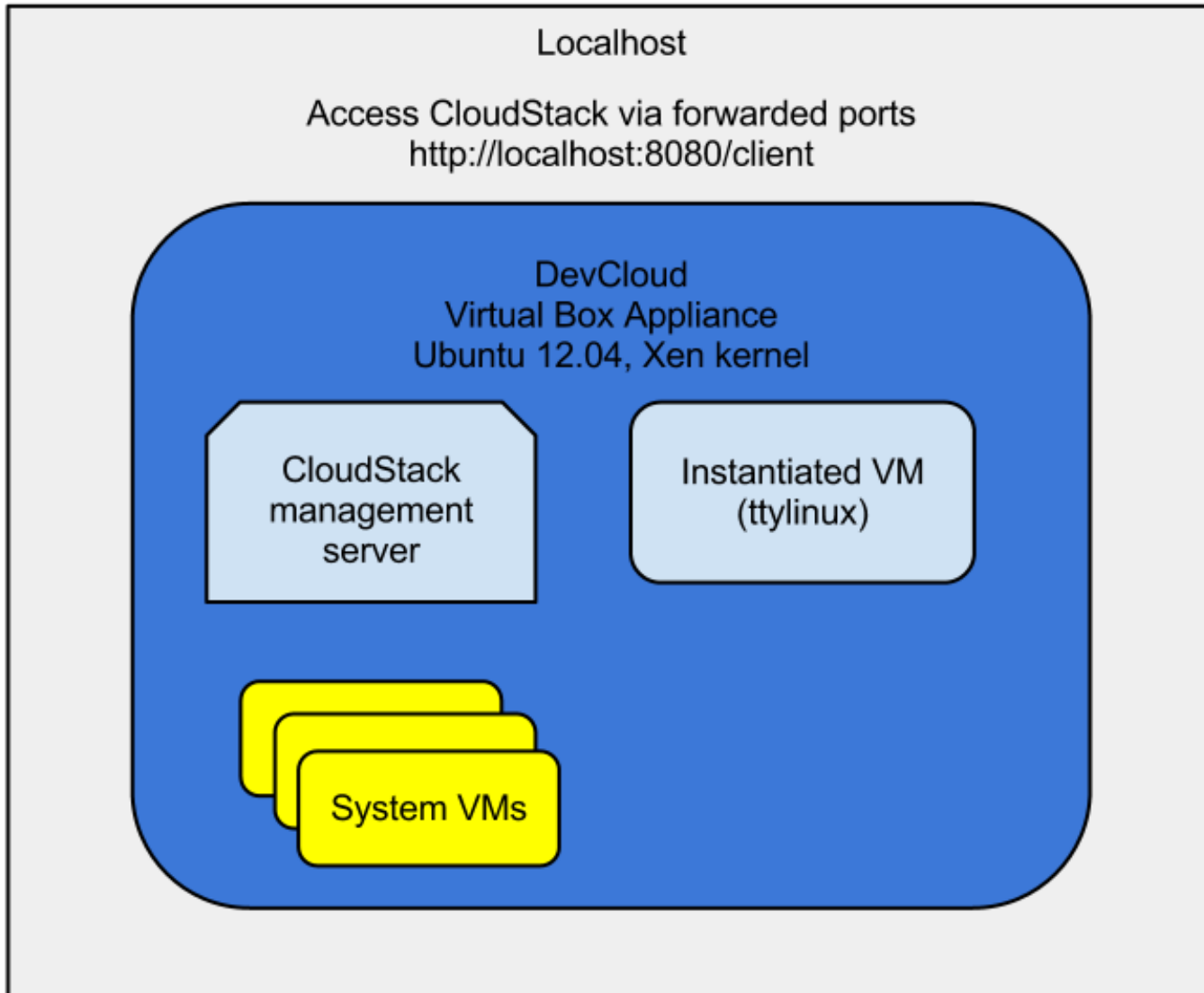


“To get your feet wet...”

DevCloud

- A Virtual box appliance packaged to provide a working CloudStack environment.
- Aimed at developers but has other use cases:
 - Xen PV hosts gives nested virtualization
 - Local EC2/S3 Cloud on your laptop
 - Networking experiments ?

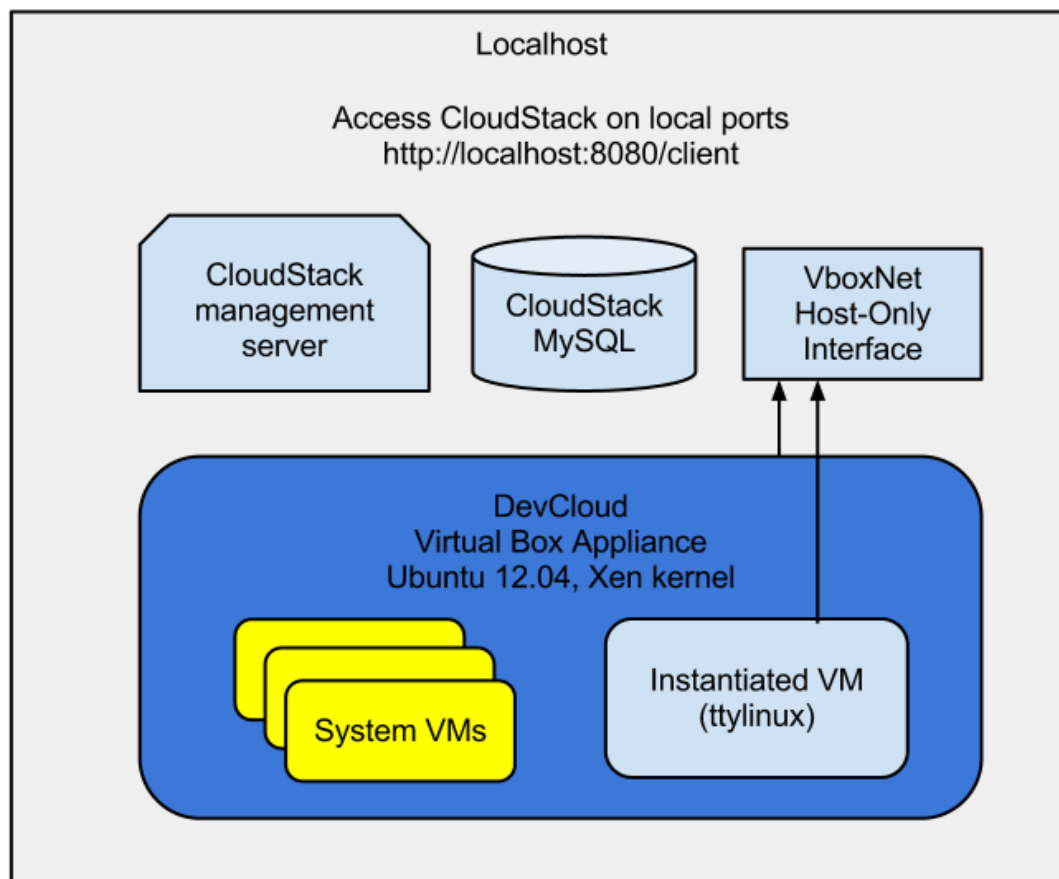
Self-Contained





DevCloud: as Host

Run CloudStack on local machine
Use DevCloud to setup hosts





CloudMonkey

- The CloudStack CLI, developed by Rohit Yadav
- ~600 lines of Python
- `pip install cloudmonkey`
- Lots of features:
 - Auto-completion
 - Tabular output
 - Help , scriptable, interactive shell...



Intro

- `$ cloudmonkey`
- `└─ Apache CloudStack 4.0.0. Type help or ? to list commands.`
- `└─ cloudmonkey> set apikey plgWJfZK4gyS3m0MTVmjUVg-X-jlWlnfaUJ9GAbBbf9EdM-kAYMmAiLqzzq1ElZLYq_u38zCm0bewzGUdP66mg`
- `└─ cloudmonkey> set secretkey VDaACYb0LV9eNjTetI0ElcVQkvJck_J_QljX_FcHRj87ZKiy0z0ty0ZsYBkoXkY9b7eq1EhwJaw7FF3akA3KBQ`



- `cloudmonkey> list users`
- `cloudmonkey> list virtualmachines`
- `cloudmonkey> help list templates`
- `cloudmonkey> deploy virtualmachine --help`
- `cloudmonkey> list templates`
`templatefilter=all`
- `cloudmonkey> list serviceofferings | grep id`
- `cloudmonkey> stop virtualmachine id=2c650856-a080-4766-a8b3-4166042ccec7`



Info

- Apache incubator project
- <http://incubator.apache.org/cloudstack>
- #cloudstack and #cloudstack-dev on irc.freenode.net
- @CloudStack on Twitter
- <http://www.slideshare.net/cloudstack>
- <http://incubator.apache.org/cloudstack/mailling-lists.html>
- Collaboration Conference, Nov 30th -Dec 2nd
 - <http://collab12.cloudstack.org/>
 - <http://www.youtube.com/diycloudcomputing>

**Welcoming contributions and feedback, Join the fun
!**



“Time for a Demo ?”